

11 RF TEST PROCEDURES

The evaluation was performed with the following procedure:

- 1) Confirm proper operation of the field probe, probe measurement system and other instrumentation and the positioning system.
- 2) Position the WD in its intended test position. The gauge block can simplify this positioning.
- 3) Configure the WD normal operation for maximum rated RF output power, at the desired channel and other operating parameters (e.g., test mode), as intended for the test.
- 4) The center sub-grid shall be centered on the center of the T-Coil mode axial measurement point or the acoustic output, as appropriate. Locate the field probe at the initial test position in the 50 mm by 50 mm grid, which is contained in the measurement plane. If the field alignment method is used, align the probe for maximum field reception.
- 5) Record the reading.
- 6) Scan the entire 50 mm by 50 mm region in equally spaced increments and record the reading at each measurement point. The distance between measurement points shall be sufficient to assure the identification of the maximum reading.
- 7) Identify the five contiguous sub-grids around the center sub-grid whose maximum reading is the lowest of all available choices. This eliminates the three sub-grids with the maximum readings. Thus, the six areas to be used to determine the WD's highest emissions are identified.
- 8) Identify the maximum field reading within the non-excluded sub-grids identified in Step 7)
- 9) Evaluate the MIF and add to the maximum steady-state rms field-strength reading to obtain the RF audio interference level..
- 10) Compare this RF audio interference level with the categories and record the resulting WD category rating.

12 Measurement Results (E-Field)

Channel	AWF	Measured Value (V/m)	Power Drift (dB)	Category M?	MIF
GSM 850					
251	0	34.42	-0.05	M4	3.42
190	0	35.04	-0.08	M4	3.51
128	0	33.36	-0.17	M4	3.52
PCS 1900					
810	0	24.57	0.02	M4	3.51
661	0	24.85	-0.11	M4	3.53
512	0	25.09	-0.07	M4	3.50
LTE Band41 QPSK					
41490	0	22.27	0.07	M4	-1.79
41055	0	22.01	0.13	M4	-1.82
40620	0	21.61	0.06	M4	-1.74
40185	0	22.1	0.18	M4	-1.74
39750	0	22.58	0.12	M4	-1.69
LTE Band41 16-QAM					
41490	0	21.56	-0.08	M4	-1.85
41055	0	21.24	-0.09	M4	-1.72
40620	0	20.79	-0.09	M4	-1.7
40185	0	21.46	-0.02	M4	-1.55
39750	0	21.8	0.05	M4	-1.74
LTE Band41 64-QAM					
41490	0	21.46	-0.07	M4	-1.85
41055	0	21.23	-0.06	M4	-1.94
40620	0	21.19	0.12	M4	-1.63
40185	0	21.3	0	M4	-1.61
39750	0	22.21	0.05	M4	-1.76

13 ANSIC 63.19-2011 LIMITS

WD RF audio interference level categories in logarithmic units

Emission categories	< 960 MHz	
	E-field emissions	
Category M1	50 to 55	dB (V/m)
Category M2	45 to 50	dB (V/m)
Category M3	40 to 45	dB (V/m)
Category M4	< 40	dB (V/m)
Emission categories	>960 MHz	
	E-field emissions	
Category M1	40 to 45	dB (V/m)
Category M2	35 to 40	dB (V/m)
Category M3	30 to 35	dB (V/m)
Category M4	< 30	dB (V/m)

14 MEASUREMENT UNCERTAINTY

No.	Error source	Type	Uncertainty Value(%)	Prob. Dist.	k	c _i E	Standard Uncertainty (%) u_i (%)E	Degree of freedom V_{eff} or v_i
Measurement System								
1	Probe Calibration	B	5.	N	1	1	5.1	∞
2	Axial Isotropy	B	4.7	R	$\sqrt{3}$	1	2.7	∞
3	Sensor Displacement	B	16.5	R	$\sqrt{3}$	1	9.5	∞
4	Boundary Effects	B	2.4	R	$\sqrt{3}$	1	1.4	∞
5	Linearity	B	4.7	R	$\sqrt{3}$	1	2.7	∞
6	Scaling to Peak Envelope Power	B	2.0	R	$\sqrt{3}$	1	1.2	∞
7	System Detection Limit	B	1.0	R	$\sqrt{3}$	1	0.6	∞
8	Readout Electronics	B	0.3	N	1	1	0.3	∞
9	Response Time	B	0.8	R	$\sqrt{3}$	1	0.5	∞
10	Integration Time	B	2.6	R	$\sqrt{3}$	1	1.5	∞
11	RF Ambient Conditions	B	3.0	R	$\sqrt{3}$	1	1.7	∞
12	RF Reflections	B	12.0	R	$\sqrt{3}$	1	6.9	∞
13	Probe Positioner	B	1.2	R	$\sqrt{3}$	1	0.7	∞
14	Probe Positioning	A	4.7	R	$\sqrt{3}$	1	2.7	∞
15	Extra. And Interpolation	B	1.0	R	$\sqrt{3}$	1	0.6	∞
Test Sample Related								
16	Device Positioning Vertical	B	4.7	R	$\sqrt{3}$	1	2.7	∞
17	Device Positioning Lateral	B	1.0	R	$\sqrt{3}$	1	0.6	∞
18	Device Holder and Phantom	B	2.4	R	$\sqrt{3}$	1	1.4	∞
19	Power Drift	B	5.0	R	$\sqrt{3}$	1	2.9	∞

20	AIA measurement	B	12	R	$\sqrt{3}$	1	6.9	∞
Phantom and Setup related								
21	Phantom Thickness	B	2.4	R	$\sqrt{3}$	1	1.4	∞
Combined standard uncertainty(%)							16.2	
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$		N	k=2		32.4	

15 MAIN TEST INSTRUMENTS

Table 1: List of Main Instruments

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Signal Generator	E4438C	MY49071430	January 2, 2018	One Year
02	Power meter	NRVD	102083	November 01, 2017	One year
03	Power sensor	NRV-Z5	100542		
04	Amplifier	60S1G4	0331848	No Calibration Requested	
05	AIA	SE UMS 170 CB	1029	No Calibration Requested	
06	E-Field Probe	ER3DV6	2272	December 19, 2017	One year
07	DAE	SPEAG DAE4	777	September 8, 2017	One year
08	HAC Dipole	CD835V3	1023	August 23, 2017	One year
09	HAC Dipole	CD1880V3	1018	August 23, 2017	One year
10	HAC Dipole	CD2600V3	1005	March 14, 2018	One year
11	BTS	E5515C	MY50263375	January 23, 2018	One year
12	BTS	CMW 500	164049	September 12, 2017	One year

16 CONCLUSION

The HAC measurement indicates that the EUT complies with the HAC limits of the ANSIC63.19-2011. The total M-rating is **M4**.

END OF REPORT BODY

ANNEX A TEST LAYOUT



Picture A1:HAC RF System Layout

ANNEX B TEST PLOTS

HAC RF E-Field GSM 850 High

Date: 2018-6-25

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: UID 0, GSM 850 (0); Frequency: 848.8 MHz;Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 38.04 V/m; Power Drift = -0.05 dB

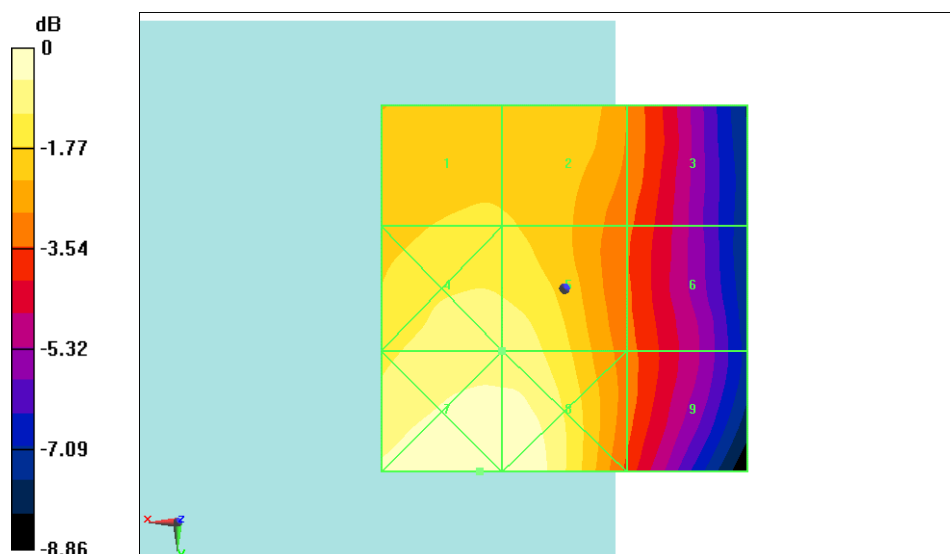
Applied MIF = 3.42 dB

RF audio interference level = 34.42 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 33.54 dBV/m	Grid 2 M4 33.51 dBV/m	Grid 3 M4 32.26 dBV/m
Grid 4 M4 34.45 dBV/m	Grid 5 M4 34.42 dBV/m	Grid 6 M4 31.97 dBV/m
Grid 7 M4 35.23 dBV/m	Grid 8 M4 35.2 dBV/m	Grid 9 M4 32.03 dBV/m



0 dB = 38.04 V/m = 34.42 dBV/m

Fig B.1 HAC RF E-Field GSM 850 High

HAC RF E-Field GSM 850 Middle

Date: 2018-6-25

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: UID 0, GSM 850 (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 2/Hearing Aid Compatibility Test

(101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 39.06 V/m; Power Drift = -0.08 dB

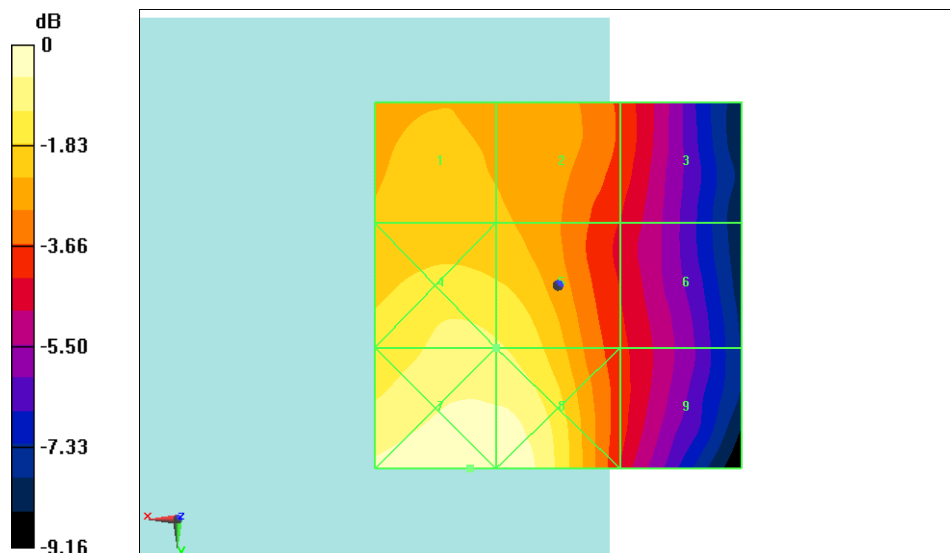
Applied MIF = 3.51 dB

RF audio interference level = 35.04 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 34.08 dBV/m	Grid 2 M4 33.88 dBV/m	Grid 3 M4 32.44 dBV/m
Grid 4 M4 35.17 dBV/m	Grid 5 M4 35.04 dBV/m	Grid 6 M4 32.14 dBV/m
Grid 7 M4 36.2 dBV/m	Grid 8 M4 36.12 dBV/m	Grid 9 M4 32.26 dBV/m



0 dB = 64.53 V/m = 36.20 dBV/m

Fig B.2 HAC RF E-Field GSM 850 Middle

HAC RF E-Field GSM 850 Low

Date: 2018-6-25

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: UID 0, GSM 850 (0); Frequency: 824.2 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 3/Hearing Aid Compatibility Test

(101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 34.18 V/m; Power Drift = -0.17 dB

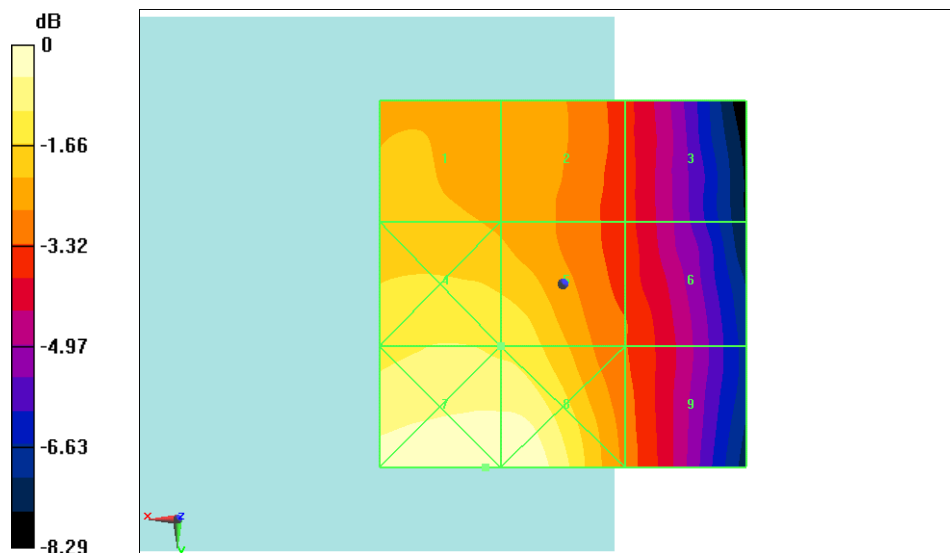
Applied MIF = 3.52 dB

RF audio interference level = 33.36 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 32.54 dBV/m	Grid 2 M4 32.25 dBV/m	Grid 3 M4 30.95 dBV/m
Grid 4 M4 33.47 dBV/m	Grid 5 M4 33.36 dBV/m	Grid 6 M4 31.29 dBV/m
Grid 7 M4 34.56 dBV/m	Grid 8 M4 34.55 dBV/m	Grid 9 M4 31.66 dBV/m



0 dB = 53.43 V/m = 34.56 dBV/m

Fig B.3 HAC RF E-Field GSM 850 Low

HAC RF E-Field GSM 1900 High

Date: 2018-6-25

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: DCS 1900 (0); Frequency: 1909.8 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 8.678 V/m; Power Drift = 0.02 dB

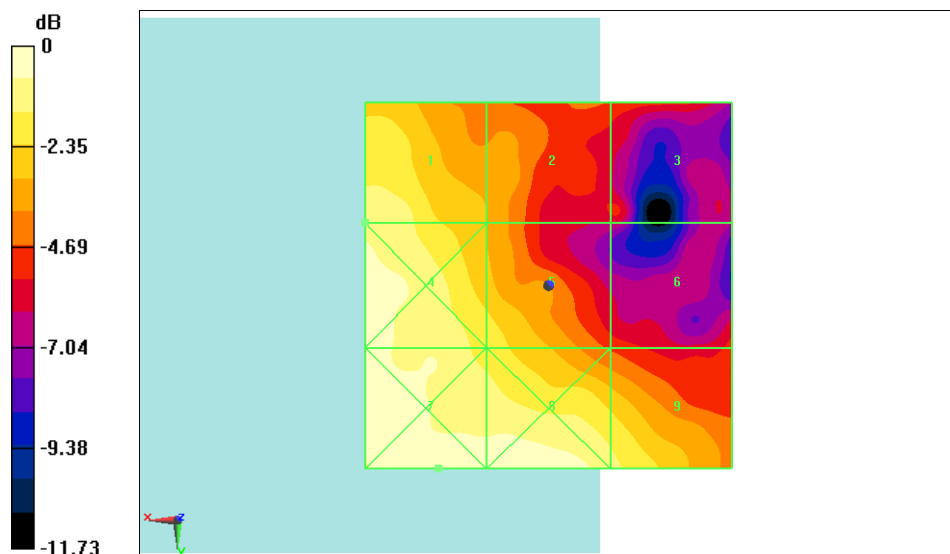
Applied MIF = 3.51 dB

RF audio interference level = 24.57 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 24.57 dBV/m	Grid 2 M4 22.38 dBV/m	Grid 3 M4 20.71 dBV/m
Grid 4 M4 25.01 dBV/m	Grid 5 M4 23.6 dBV/m	Grid 6 M4 20.65 dBV/m
Grid 7 M4 25.46 dBV/m	Grid 8 M4 25.2 dBV/m	Grid 9 M4 24.17 dBV/m



0 dB = 18.75 V/m = 25.46 dBV/m

Fig B.4 HAC RF E-Field GSM 1900 High

HAC RF E-Field GSM 1900 Middle

Date: 2018-6-25

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: UID 0, DCS 1900 (0); Frequency: 1880 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 2/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 8.500 V/m; Power Drift = -0.11 dB

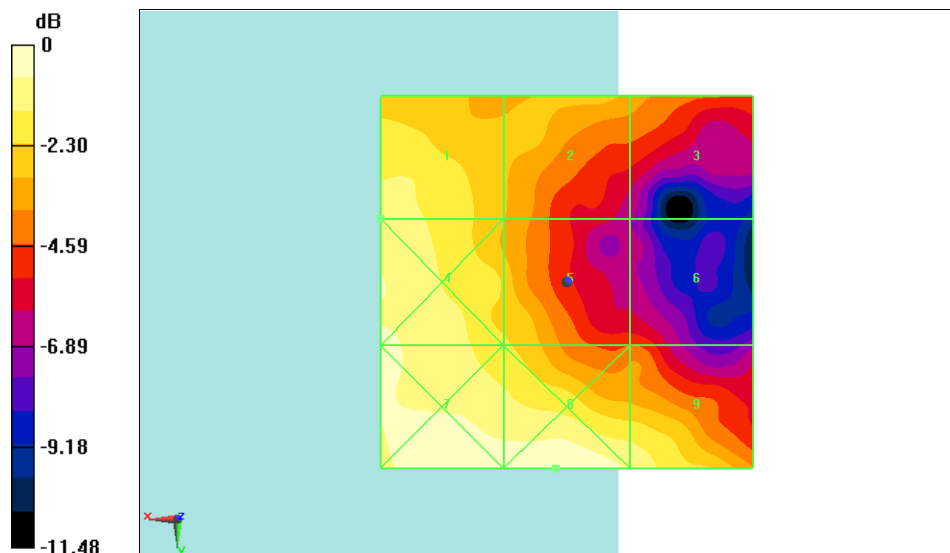
Applied MIF = 3.53 dB

RF audio interference level = 24.85 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 24.85 dBV/m	Grid 2 M4 23.07 dBV/m	Grid 3 M4 22.27 dBV/m
Grid 4 M4 25.11 dBV/m	Grid 5 M4 23.54 dBV/m	Grid 6 M4 21.13 dBV/m
Grid 7 M4 25.6 dBV/m	Grid 8 M4 25.68 dBV/m	Grid 9 M4 24.77 dBV/m



0 dB = 19.24 V/m = 25.68 dBV/m

Fig B.5 HAC RF E-Field GSM 1900 Middle

HAC RF E-Field GSM 1900 Low

Date: 2018-6-25

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: DCS 1900 (0); Frequency: 1850.2 MHz; Duty Cycle: 1:8.3

Probe: ER3DV6 - SN2272; ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 3/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 7.187 V/m; Power Drift = -0.07 dB

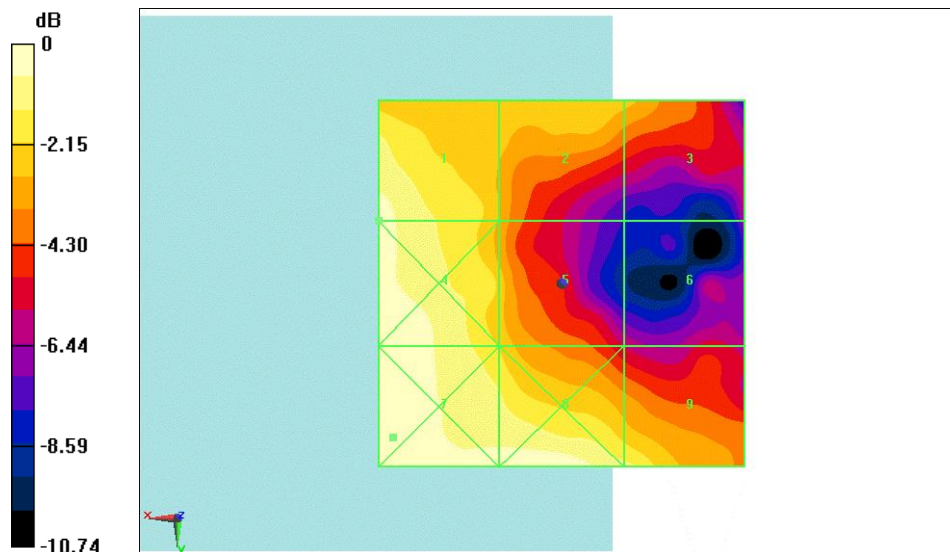
Applied MIF = 3.50 dB

RF audio interference level = 25.09 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 25.09 dBV/m	Grid 2 M4 22.99 dBV/m	Grid 3 M4 22.65 dBV/m
Grid 4 M4 25.09 dBV/m	Grid 5 M4 23.03 dBV/m	Grid 6 M4 19.87 dBV/m
Grid 7 M4 25.27 dBV/m	Grid 8 M4 25.23 dBV/m	Grid 9 M4 24.11 dBV/m



0 dB = 18.34 V/m = 25.27 dBV/m

Fig B.6 HAC RF E-Field GSM 1900 Low

HAC RF E-Field LTE Band41 QPSK High

Date: 2018-6-26

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: LTE Band41; Frequency: 2680 MHz; Duty Cycle: 1:1.58

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 9.454 V/m; Power Drift = 0.07 dB

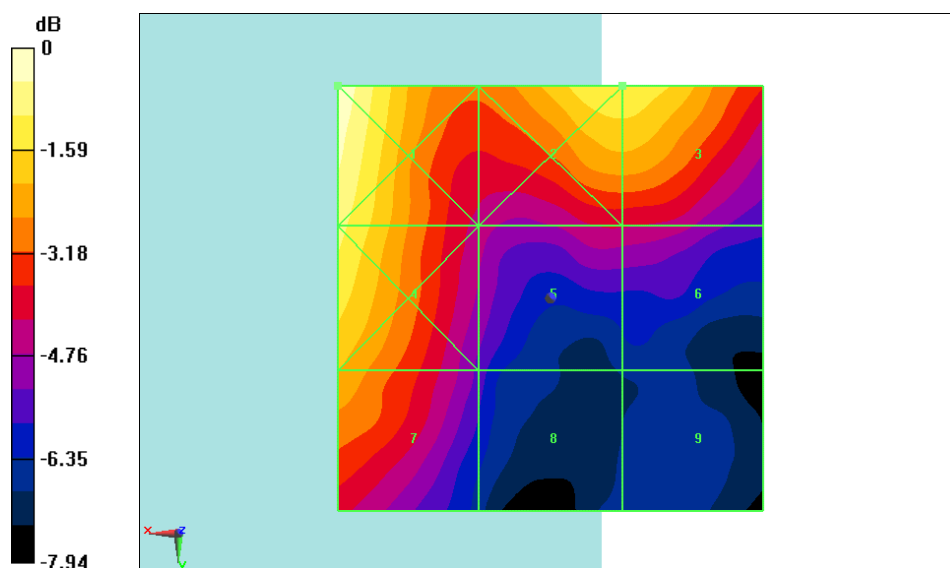
Applied MIF = -1.79 dB

RF audio interference level = 22.27 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 23.47 dBV/m	Grid 2 M4 22.36 dBV/m	Grid 3 M4 22.27 dBV/m
Grid 4 M4 22.6 dBV/m	Grid 5 M4 19.31 dBV/m	Grid 6 M4 19.29 dBV/m
Grid 7 M4 21.39 dBV/m	Grid 8 M4 18.04 dBV/m	Grid 9 M4 17.07 dBV/m



0 dB = 14.91 V/m = 23.47 dBV/m

Fig B.7 HAC RF E-Field LTE Band41 QPSK High

HAC RF E-Field LTE Band41 QPSK 2636.5MHz

Date: 2018-6-26

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: LTE Band41; Frequency: 2636.5 MHz; Duty Cycle: 1:1.58

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 2/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 10.29 V/m; Power Drift = 0.13 dB

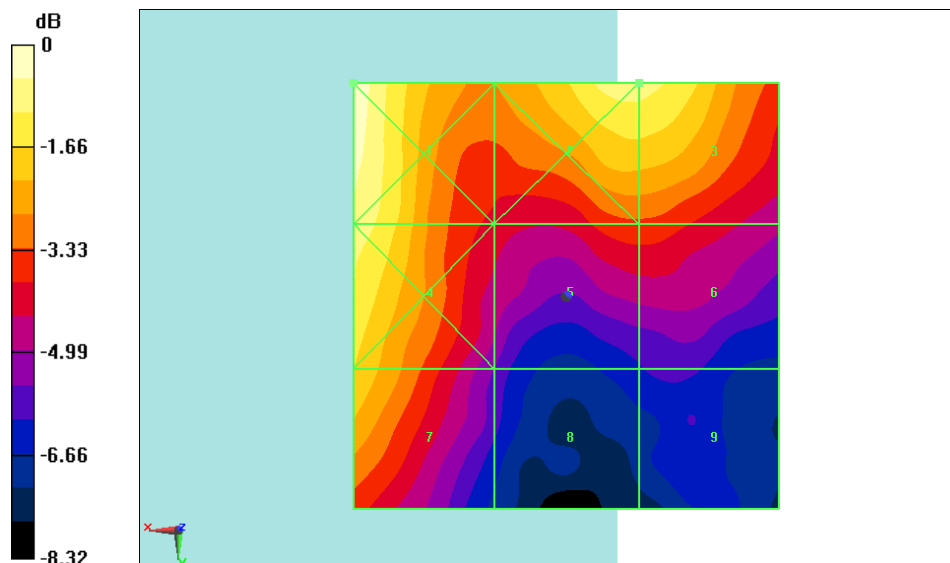
Applied MIF = -1.82 dB

RF audio interference level = 22.01 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 22.91 dBV/m	Grid 2 M4 22.07 dBV/m	Grid 3 M4 22.01 dBV/m
Grid 4 M4 22.16 dBV/m	Grid 5 M4 19.48 dBV/m	Grid 6 M4 19.48 dBV/m
Grid 7 M4 21.24 dBV/m	Grid 8 M4 17.38 dBV/m	Grid 9 M4 16.97 dBV/m



0 dB = 13.97 V/m = 22.90 dBV/m

Fig B.8 HAC RF E-Field LTE Band41 QPSK 2636.5MHz

HAC RF E-Field LTE Band41 QPSK Middle

Date: 2018-6-26

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: LTE Band41; Frequency: 2593 MHz; Duty Cycle: 1:1.58

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 3/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 11.64 V/m; Power Drift = 0.06 dB

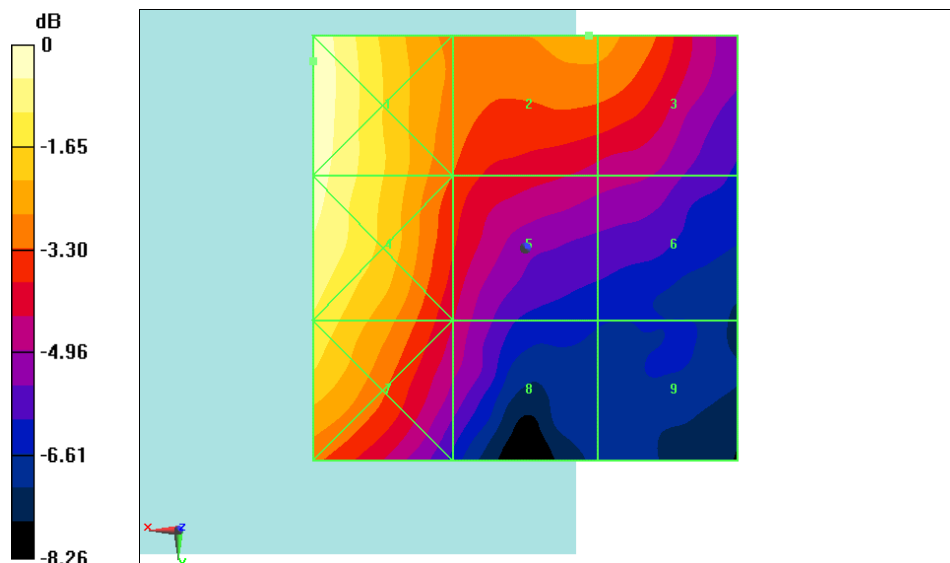
Applied MIF = -1.74 dB

RF audio interference level = 21.61 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 24.14 dBV/m	Grid 2 M4 21.61 dBV/m	Grid 3 M4 21.59 dBV/m
Grid 4 M4 23.9 dBV/m	Grid 5 M4 20.83 dBV/m	Grid 6 M4 19.52 dBV/m
Grid 7 M4 22.97 dBV/m	Grid 8 M4 19.77 dBV/m	Grid 9 M4 17.64 dBV/m



0 dB = 16.11 V/m = 24.14 dBV/m

Fig B.9 HAC RF E-Field LTE Band41 QPSK Middle

HAC RF E-Field LTE Band41 QPSK 2549.5MHz

Date: 2018-6-26

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: LTE Band41; Frequency: 2549.5 MHz; Duty Cycle: 1:1.58

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 3 3/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 12.04 V/m; Power Drift = 0.18 dB

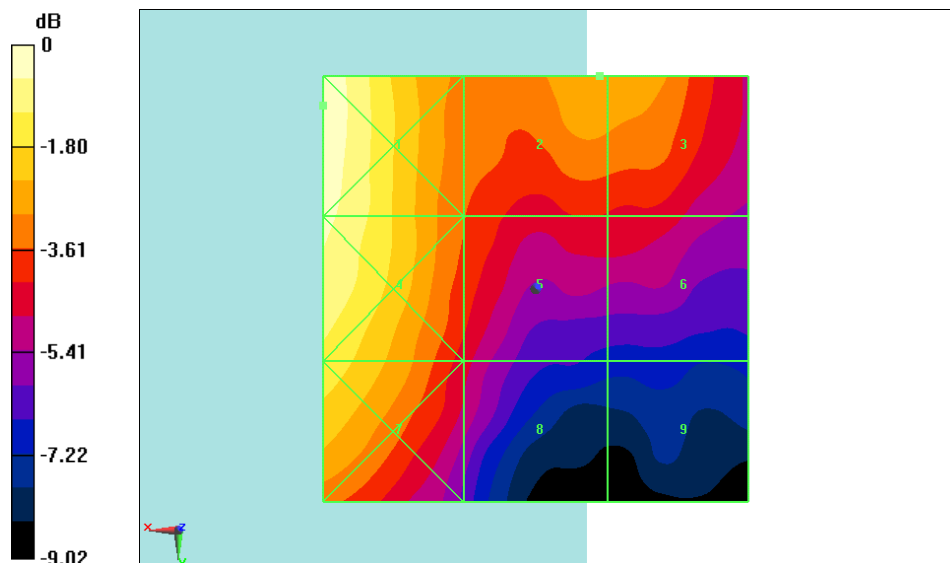
Applied MIF = -1.74 dB

RF audio interference level = 22.10 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 24.56 dBV/m	Grid 2 M4 22.1 dBV/m	Grid 3 M4 22.08 dBV/m
Grid 4 M4 24.14 dBV/m	Grid 5 M4 21 dBV/m	Grid 6 M4 20.32 dBV/m
Grid 7 M4 23.18 dBV/m	Grid 8 M4 20.06 dBV/m	Grid 9 M4 17.78 dBV/m



0 dB = 16.90 V/m = 24.56 dBV/m

Fig B.10 HAC RF E-Field LTE Band41 QPSK 2549.5MHz

HAC RF E-Field LTE Band41 QPSK Low

Date: 2018-6-26

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: LTE Band41; Frequency: 2506 MHz; Duty Cycle: 1:1.58

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 3 2/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 11.50 V/m; Power Drift = 0.12 dB

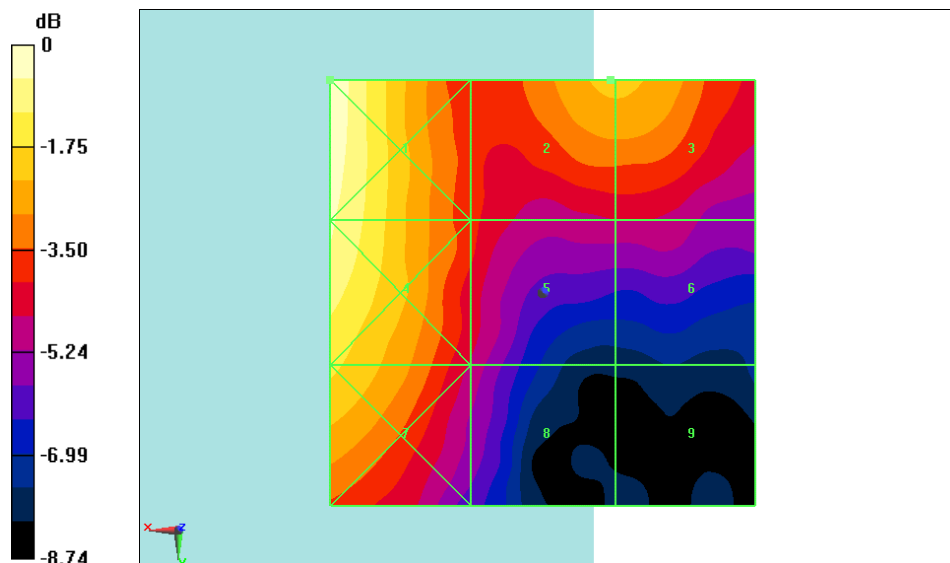
Applied MIF = -1.69 dB

RF audio interference level = 22.58 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 24.79 dBV/m	Grid 2 M4 22.58 dBV/m	Grid 3 M4 22.57 dBV/m
Grid 4 M4 24.29 dBV/m	Grid 5 M4 20.92 dBV/m	Grid 6 M4 20.14 dBV/m
Grid 7 M4 23.18 dBV/m	Grid 8 M4 20.05 dBV/m	Grid 9 M4 17.4 dBV/m



0 dB = 17.35 V/m = 24.79 dBV/m

Fig B.11 HAC RF E-Field LTE Band41 QPSK Low

HAC RF E-Field LTE Band41 16QAM High

Date: 2018-6-26

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: LTE Band41; Frequency: 2680 MHz; Duty Cycle: 1:1.58

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 9.064 V/m; Power Drift = -0.08 dB

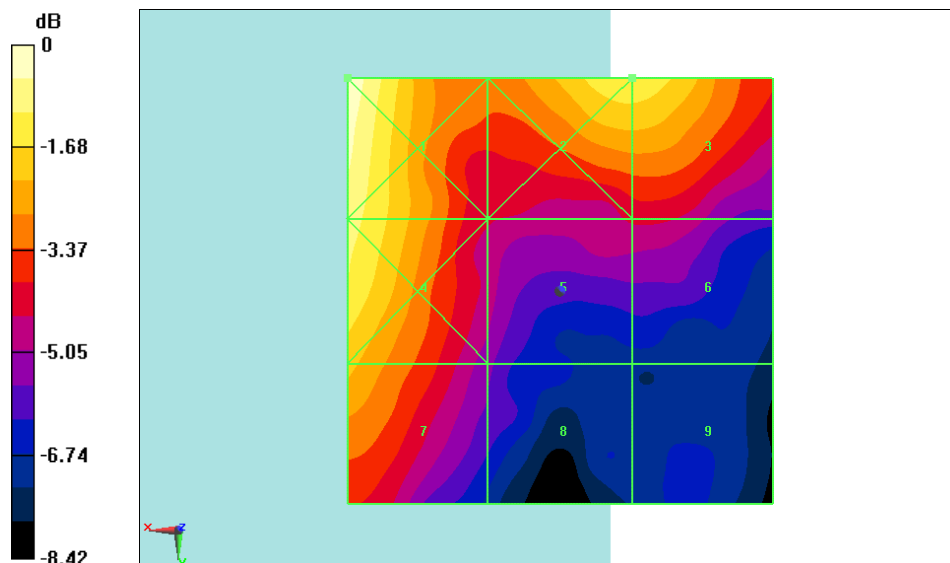
Applied MIF = -1.85 dB

RF audio interference level = 21.56 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 22.85 dBV/m	Grid 2 M4 21.57 dBV/m	Grid 3 M4 21.56 dBV/m
Grid 4 M4 22.01 dBV/m	Grid 5 M4 18.49 dBV/m	Grid 6 M4 18.54 dBV/m
Grid 7 M4 20.81 dBV/m	Grid 8 M4 17.46 dBV/m	Grid 9 M4 16.36 dBV/m



0 dB = 13.89 V/m = 22.85 dBV/m

Fig B.12 HAC RF E-Field LTE Band41 16QAM High

HAC RF E-Field LTE Band41 16QAM 2636.5MHz

Date: 2018-6-26

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: LTE Band41; Frequency: 2636.5 MHz; Duty Cycle: 1:1.58

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 2/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 9.570 V/m; Power Drift = -0.09 dB

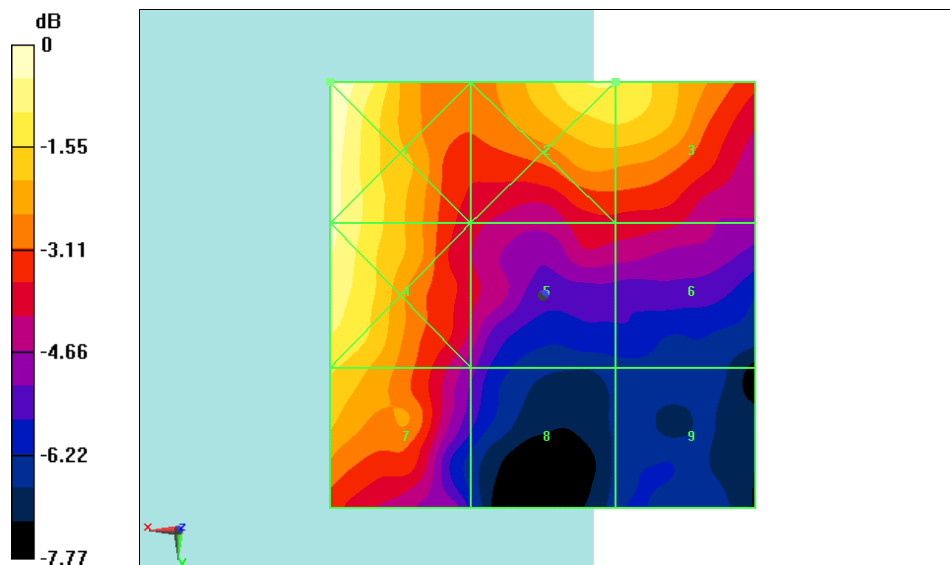
Applied MIF = -1.72 dB

RF audio interference level = 21.24 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 22.26 dBV/m	Grid 2 M4 21.3 dBV/m	Grid 3 M4 21.24 dBV/m
Grid 4 M4 21.96 dBV/m	Grid 5 M4 18.52 dBV/m	Grid 6 M4 18.49 dBV/m
Grid 7 M4 20.81 dBV/m	Grid 8 M4 17.3 dBV/m	Grid 9 M4 16.16 dBV/m



0 dB = 12.98 V/m = 22.27 dBV/m

Fig B.13 HAC RF E-Field LTE Band41 16QAM 2636.5MHz

HAC RF E-Field LTE Band41 16QAM Middle

Date: 2018-6-26

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: LTE Band41; Frequency: 2593 MHz; Duty Cycle: 1:1.58

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 3/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 10.03 V/m; Power Drift = -0.09 dB

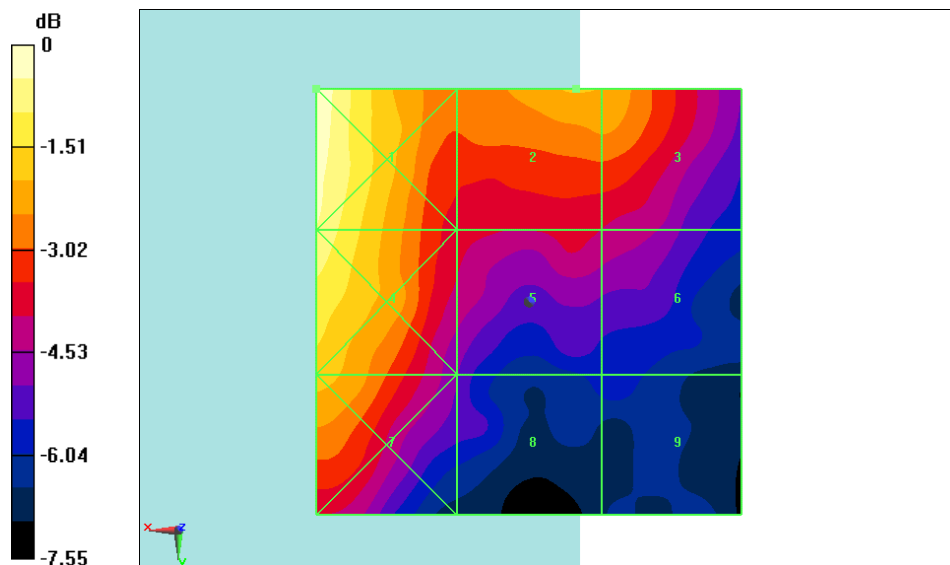
Applied MIF = -1.70 dB

RF audio interference level = 20.79 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 22.75 dBV/m	Grid 2 M4 20.79 dBV/m	Grid 3 M4 20.7 dBV/m
Grid 4 M4 22.22 dBV/m	Grid 5 M4 19.04 dBV/m	Grid 6 M4 18.73 dBV/m
Grid 7 M4 20.96 dBV/m	Grid 8 M4 17.79 dBV/m	Grid 9 M4 17.06 dBV/m



0 dB = 13.72 V/m = 22.75 dBV/m

Fig B.14 HAC RF E-Field LTE Band41 16QAM Middle

HAC RF E-Field LTE Band41 16QAM 2549.5MHz

Date: 2018-6-26

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: LTE Band41; Frequency: 2549.5 MHz; Duty Cycle: 1:1.58

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 3 3/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 10.65 V/m; Power Drift = -0.02 dB

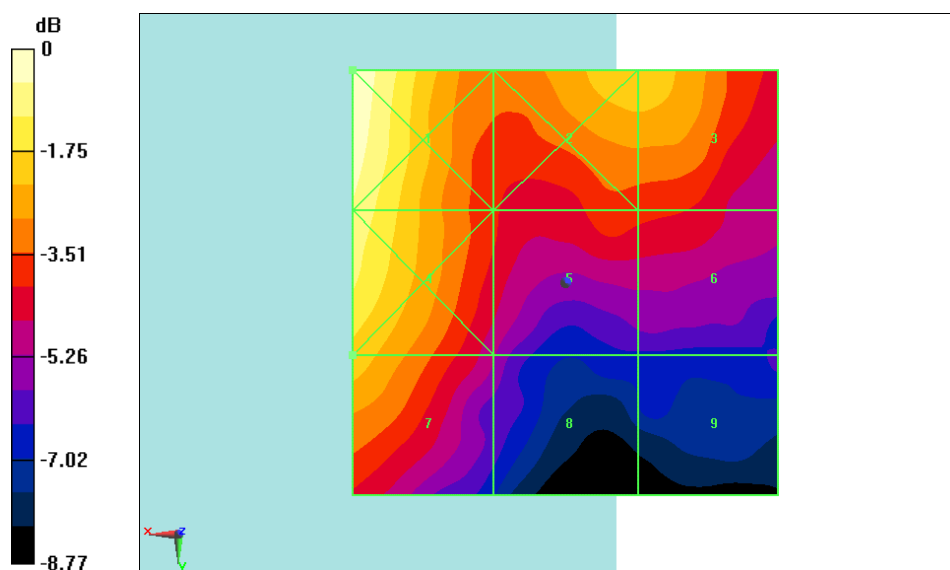
Applied MIF = -1.55 dB

RF audio interference level = 21.46 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 23.4 dBV/m	Grid 2 M4 21.46 dBV/m	Grid 3 M4 21.42 dBV/m
Grid 4 M4 22.73 dBV/m	Grid 5 M4 19.64 dBV/m	Grid 6 M4 19.52 dBV/m
Grid 7 M4 21.46 dBV/m	Grid 8 M4 18.24 dBV/m	Grid 9 M4 17.1 dBV/m



0 dB = 14.78 V/m = 23.39 dBV/m

Fig B.15 HAC RF E-Field LTE Band41 16QAM 2549.5MHz

HAC RF E-Field LTE Band41 16QAM Low

Date: 2018-6-26

Electronics: DAE4 Sn777

Medium: Air

Medium parameters used: $\sigma = 0$ mho/m, $\epsilon_r = 1$; $\rho = 1000$ kg/m³

Ambient Temperature: 22.0°C

Communication System: LTE Band41; Frequency: 2506 MHz; Duty Cycle: 1:1.58

Probe: ER3DV6 - SN2272;ConvF(1, 1, 1)

E Scan - ER3DV6 - 2011: 15 mm from Probe Center to the Device 3 2/Hearing Aid

Compatibility Test (101x101x1): Interpolated grid: dx=0.5000 mm, dy=0.5000 mm

Device Reference Point: 0, 0, -6.3 mm

Reference Value = 9.475 V/m; Power Drift = 0.05 dB

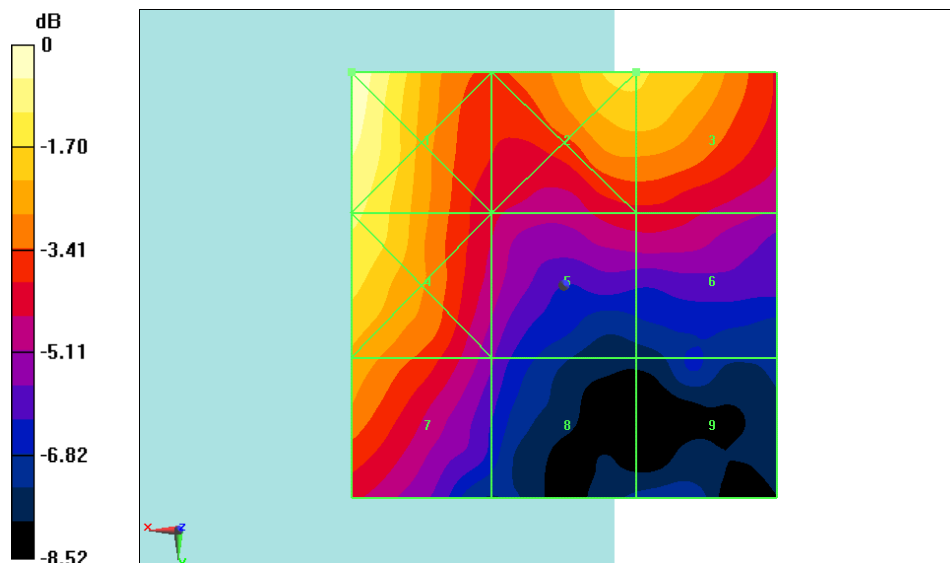
Applied MIF = -1.74 dB

RF audio interference level = 21.80 dBV/m

Emission category: M4

MIF scaled E-field

Grid 1 M4 23.42 dBV/m	Grid 2 M4 21.88 dBV/m	Grid 3 M4 21.8 dBV/m
Grid 4 M4 22.46 dBV/m	Grid 5 M4 19.3 dBV/m	Grid 6 M4 19.3 dBV/m
Grid 7 M4 21.05 dBV/m	Grid 8 M4 17.88 dBV/m	Grid 9 M4 16.74 dBV/m



0 dB = 14.83 V/m = 23.42 dBV/m

Fig B.16 HAC RF E-Field LTE Band41 16QAM Low